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ABSTRACT

This correlational study of animal identifications, learning preferences, reading, and reading-related academic skills uncovered several clear patterns of relationship. Data were derived from a subsample of 94 tenth-grade students, who were drawn from over 1,000 randomly selected subjects in grades seven through twelve at a large, predominantly white, midwestern school district. The Manzo Bestiary Inventory and the Learning Preference Inventory, two original instruments, were used to assess students' general social-psychological characteristics, as inferred from identification with specific animals, and preferences for certain teaching procedures (lecture, lecture-discussion, small group work, etc.). Performance on two cloze passages, multiple choice comprehension and vocabulary scores on these passages, writing abilities, and self-reported educational goals were also assessed. Sex differences were noted. Data, compressed into two matrices, are presented in a visual display. (KS)

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Relationships Among Animal Identifications, Learning Preferences, Reading, and Reading Related Abilities

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Paper: National Reading Conference, Atlanta, Georgia
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CS 003 201

Relationships Among Animal Identifications, Learning Preferences, Reading, and Reading Related Abilities

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Always there is the nagging issue of who and what a student is, other than his achievement scores. No one argues any longer that the shape of "success" and "failure" have been too easily defined by academics; a goodly number of the high achieving are social-emotional losses, and an equal number of the median achieving, or as Harry S. Truman referred to them and himself as "straight C students", assume the reins of leadership. Arguments over whether or why this should be the case are worthwhile, but as the arguments continue, so too, does the prevailing dynamic. It was as no answer to this difficult question, but as a pragmatic means of getting a purchase on it, that the current line of research was undertaken. Sought was a means of identifying the social-psychological characteristics related to academic success and lack of such success. The continuation of this research will attempt to identify such other aspects of motivation and style as may attenuate "success" in non-academic affairs.

This paper reports the results of a correlational study of the inter-relationships of animal identifications, learning preferences, reading, and reading related academic skills. Several clear patterns of relationship were found.

Procedure and Instruments

The data of this report are derived from a sub-sample of ninety-four (94) cases of 10th grade students, drawn from over one thousand, randomly selected students tested at grades 7 thru 12 at a large midwestern, predominately white, school district. Data from an earlier study which sampled younger children, vocationally established adults, and adults attending basic education classes gave evidence that the traits revealed by the experimental instruments tended to

be characterological. Individual differences were quite distinctive, while group characteristics were relatively homogeneous across age and grade levels. There were some slight, predictable, differences between junior and senior high school students, the latter reflecting generally more complex personality configurations (Manzo, Lorton, Condon, 1975).

Assessed in this correlational study were the following: 1) general social-psychological characteristics as these could be inferred from selected animal identifications, 2) teaching-learning preferences, 3) cloze passage performance on two passages, one at grade level and another at a more advance level drawn from a popular social studies textbook, 4) multiple choice comprehension and vocabulary in context scores on these same two passages, 5) writing abilities (subjective assessment by two judges based on selected critieria), and 6) stated intentions to either drop-out of high school, complete high school, do technical training, complete college, or do post-graduate study. Sex differences were also noted.

A brief description of the two primary experimental instruments is followed by a summary of the major findings.

The Manzo Bestiary Inventory (MBI), group form, is a social-psychological inventory in which subjects express degrees of identification with thirty-three different animals. Expressions are recorded on a five point scale, one low, five high. Reliability and likely error variance are determined by calculating the degree of correspondence between three test items which are repeated on the test in different locations: Squirrel 1 and 2 which correlated at .67, Pheasant 1 and 2 which correlated at .74, and Horse 1 and 2 which correlated at .88. On the basis of these correlations, test reliability for this assessment situation was estimated at about .76. Personality, sccial, and behavioral characteristics are

inferred from animal identifications in essentially two ways: by the face values and corresponding metaphoric meanings typical to animal imagery, and by a more elaborate, collateral method by which a rank ordering of previously collected associations, or 'adjectivals', is examined for the meanings these might suggest. Adjectivals are words and phrases which were collected in free association form from high school and college students. Reading clinicians in training subsequently ranked these as they viewed the strength of each association (Manzo, 1975).

The Learning Preference Inventory (LPI) is also an experimental instrument. Students are first asked to indicate their degree of "Knowledge and Experience" with, and then their preferences for, ten fundamental methods of teaching-learning. The ten methods are repeated for several school subjects to determine the extent to which preferences vary by subject/task requirements. The ten methods of teaching-learning outlined on the test are as follows:

LPI Teaching/Learning Methods (or Styles)

1. Lecture Learning: the teacher does most of the talking. Questions are permitted, but there is generally little discussion.

2. Lecture/Discussion: the teacher lectures briefly, then raises questions for class discussion.

3. Inquiry Lesson: the teacher briefly describes a topic; the class questions the teacher in an effort to discover the important information. The teacher finally tells the class what important questions they may have failed to ask.

4. Incidental Teaching: most skills and some information are taught as they appear to be needed. For example, a spelling, reading, or writing lesson may be taught on the spot in a social studies class because the students seemed to need it.

5. Casual Learning: specially designed games are played or activities done to improve certain skills, encourage certain attitudes, or build knowledge in certain areas.

6. Directed Individual Learning: a student is given certain work to do based on tests which showed his special needs. He must complete this work before he can go on to a higher level.

7. Student Reporting: individual students are responsible for finding and presenting information to the class on assigned topics.

8. Group Work: small groups are assigned topics to research and/or discuss. Their findings and/or conclusions then are shared with the entire class.

9. Individual Tutoring: the teacher works with one student (or a very small group) while the remainder of the class is engaged in another activity.

10. Team Teaching: two or more teachers working together teach a class. They discuss different points of view in front of the group. The class may participate in the discussion.

A preliminary test, retest reliability coefficient for the LPI, based on a small sample (N=65) of youngsters ranging from intermediate to high school age and achievement levels, was estimated as .67. This estimate will be re-calculated presently with a larger sample for each grade level, 4 thru freshman in college.

Findings

The enormity of the correlation matrix plus the complexities involved in representing trends which were either reinforced or diluted by cross-verifying factors suggests this practical resolve. The data are compressed into matrices, only slightly interpolated by the experimenter, to form a display, which it is hoped, provides a better view of important subtleties than would a traditional table of statistical findings.

Matrix one displays the relationships found between each MBI choice with each of the major academic factors assessed. Where associations were judged to be highly related (beyond the .02 level, and/or cross-verified by an additional corresponding measure) it is shown as a plus (+) or minus (-) three (3) relationship. Where a relationship was found to be significant at the .03 to .05 levels, and/or showed a strong corresponding trend among interrelated items, it is shown as a plus (+) or minus (-) two (2). Where a correlation suggested a

relationship which was "non-statistically significant," though a solid trend (.06-.08), with corroborating evidence, it is noted as plus (+) or minus (-) one (1). Blank spaces indicate no apparent relationship.

Matrix two, constructed in the same fashion, depicts relationships between the MBI and major learning preferences.

MATRIX 1

MATRIX 2

The strongest relationships between MBI choices and academic skills are here itemized:

1. Those identifying with Horse and Porpoise have the highest and most consistent patterns of achievement.

2. There are affective characteristics associated with Horse, Chicken, Penguin, Giraffe, and to a slightly lesser degree, Dog, Turtle, Porpoise and Dove which are positively related to cloze passage performance.

3. Conversely, there are affective characteristics associated with Wolf and Coyote which are negatively correlated with cloze passage performance.

4. Those identifying with Fox appear to have poor writing, vocabulary and comprehension skills, while those identifying with Hog merely have poor comprehension skills.

5. Those identifying with Eagle, Porpoise, Tiger, and Horse tend to have good comprehension skills, while each of these, excepting Horse, have above average vocabulary skills as well.

Matrix 1

	Sex Related	Cloze	Writing	Compre-hension	Vocabu-lary	Intentions
1. Horse	(F) 1	3		2		
2. Dog		2	2			2
3. Squirrel		-1				
4. Pheasant		-1	-2		1	
5. Cow				-1		
6. Rooster		-1				
7. Lion			-2			
8. Chicken		3				
9. Moose	(M) 1		-1	1		
10. Penguin	(F) 1	3				1
11. Owl		-1				
12. Badger	(M) 3	-1	-1			
13. Tiger			-1	2	2	
14. Goat						
15. Turtle		2				
16. Alligator	(M) 3					
17. Porpoise		2		2	2	1
18. Leopard		2	-2			3
19. Hog				-2		
20. Wolf	(M) 1	-3	-3			
21. Giraffe	(F) 3	3		-1	1	1
22. Mink	(F) 1	1		-1		
23. Duck			-2		-1	
24. Peacock	(F) 3	-1				
25. Swan	F (3)	1	-1			
26. Falcon	M (3)	-1	-1		1	1
27. Dove	F (3)	2				
28. Snake	M (3)		-1	-1		
29. Elephant		1		1	1	1
30. Eagle	M (1)			2	2	
31. Hippotamus		1	1			
32. Fox			-1	-2	-2	
33. Coyote		-2	-3			

Matrix 2

	1 LL	2 Lec/Dis	3 Inq.	4 Incid.	5 Casual	6 Indep.	7 S. Reptg.	8 Group	9 Tutorg.	10 Team
1. Horse		3	2	2			1		1	-2
2. Dog		3						2		
3. Squirrel				2					-2	-2
4. Pheasant				2				-1		
5. Cow							3			
6. Rooster	3							-2		
7. Lion									-1	1
8. Chicken		-2					2			
9. Moose					3					
10. Penguin					3			3		
11. Owl					2			1	1	
12. Badger	-2		-1		3	2	-3			2
13. Tiger	-3				2					
14. Goat										
15. Turtle	-3					1				-1
16. Alligator										
17. Porpoise		3			3	2				
18. Leopard				3	3	1	-2			
19. Hog			-2				2			2
20. Wolf				1		1				
21. Giraffe		2	3		2			1		-2
22. Mink	-3									
23. Duck					3				1	
24. Peacock					3					
25. Swan					3					
26. Falcon		2								
27. Dove									2	
28. Snake				1	-1					

Matrix 2 (Cont'd)

	1 LL	2 Lec/Dis	3 Inq.	4 Incid.	5 Casual	6 Indep.	7 S. Reptg.	8 Group	9 Tutorg.	10 Team
29. Elephant										
30. Eagle										1
31. Hippotamus							2			
32. Fox										
33. Coyote		2		3						1
34. Cloze	-1									
35. Reading (Voc. & Rdg.)	2	3		-1	2					
36. Sex		M (3)			F (2)					

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The reader is referred to Matrix one to study sex differences in choices and other strong, but non-statistically, significant trends.

Relationships of animal choices to learning preferences are here summarized:

1. Lecture Learning was held in highest regard by those identifying with Rooster, and lowest regard by those identifying with Tiger, Turtle, Mink, and to a lesser degree, Badger. Those identifying with Lecture Learning had above average levels of performance on reading measures.

2. Lecture Discussion was held in highest regard by Horse, Dog and Porpoise, to a somewhat lesser degree by Giraffe, and negatively by those identifying with Chicken. Those preferring Lecture Discussion had the highest levels of reading performance of all groups tested.

3. Inquiry Lessons were held in high regard by Giraffe, and to a lesser degree, Horse. Those identifying with Hog disliked this teaching-learning style.

4. Incidental Learning was held in highest regard by Leopard and Coyote, in high regard by Horse, Squirrel and Pheasant, and enjoyed no evidence of rejection by any discernable grouping of students.

5. Casual Learning was held in the highest regard by those identifying with Moose, Penguin, Badger, Porpoise, Leopard, Duck, Peacock, and Swan, in high regard by those identifying with Owl, Tiger and Giraffe. Casual Learning enjoyed no sharp expressions of rejection. Those preferring Casual Learning tended to be above average achievers on the reading measures.

6. Independent, or Directed Individual Learning, was preferred by those identifying with Badger and Porpoise, with no group expressing rejection.

7. Student Reporting was most popular with those identifying with Cow, and only slightly less popular with Chicken and Hog, and surprisingly, Fox. It was

most disliked by Leopard.

8. Group Work was very popular with Penguin, slightly less so with Squirrel, and disliked by Rooster.

9. Individual Tutoring was liked by those identifying with Dove and disliked by those identifying with Pheasant.

10. Team Teaching was preferred by Badger and Hog, and disliked by Horse, Squirrel, and Giraffe.

The reader is referred to Matrix 2 for trends and sex differences.

Discussion:

There is an apparent triangulation among social-psychological, characteristics, learning style preferences, and various aspects of reading-language skills. Indeed, some of these relationships appear more precise than could have been predicted heretofore. There is, for example, the medium high positive correlation between the identification Eagle with comprehension and vocabulary, but no correlation between Eagle and cloze performance nor Eagle and writing ability. Too, there is the medium high negative correlation of the identification Fox with comprehension and vocabulary, along with a negative trend in writing, and no correlation with cloze performance. Conversely, Dove is positively correlated with cloze performance, but with no other measured skill, and Giraffe is highly positively correlated with cloze, but somewhat negatively correlated with comprehension. Thus, there are quite distinctive patterns of academic development revealed in animal identifications.

Learning preferences also seems to cluster in distinctive patterns with respect to both achievement and bestiary identifications. The profile of character traits and patterns of achievement, for example, of those electing

'Lecture Learning' is quite different from those preferring 'Casual Learning'. This says that the LPI, which was intended initially as a simple inventory of learning preferences, is clearly revealing of much deeper characterological traits. This could have significant implications for "learning styles" research. The strength of these findings, plus the innocuous nature of the instruments, and their ease of administration, suggest that we may be able to discover "who and what" the particular students are who are helped, or possibly inhibited in their learning, by our various treatment conditions.

*Experimental forms of the MBI and LPI are available for research purposes upon request from the author.

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